Chapter 1
The Business Process Management Systems to Support Continuous Improvements

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ABSTRACT

In recent years, most universities are facing with the problem of quality management in higher-education systems and institutions. The Countries that have signed the Bologna Declaration are enforced to implement an internal system for quality assurance. One of the key element of a quality management system is the process modelling with delineation of responsibility, authority, procedures and plans. This chapter describes the use of the Business Process Management to support the higher Education Management System at University of Basilicata. The case study developed concerns the following steps: visualizing, measuring, analysing by a simulation environment, and improving the management system. The original contribution of the research concerns the development of a simulation environment using BIZAGI modeller based on BPMN notation in order to analyse and improve the performance of the case study investigated. Moreover, the use of a software based on BPMN can improve quality (error rate reduction), efficiency (saving of time) and agility (implementation of processes of changes).

INTRODUCTION AND MOTIVATION

Teaching Management Area is a key part of the higher educational structure as the Departments of the universities because it involves all students and teachers. Universities have proposed several different methodologies to improve efficiency and realize the goals of the administration (Zhang et al., 2012). The administration management system is crucial to support students and teachers to perform their work in an efficient way.

However, there are many problems with the different activities supported by these administrative management systems. Some supported activities are: the student's study plan management (university internship program) and administrative support to the management of the courses of study (students' enquiries, designing the study plan, etc.).

There could be many problems such as the synchronization of information among the actors of the processes; each member of the staff managing the courses performs different non-standard activities to complete the tasks; problems of communication with students, etc. The above problems lead to increasing the time required to support the needs of teachers and students and potential errors during the processes, reducing the performance of the administrative staff working in the Teaching Management Area and the level of quality perceived by students.

The development of a process-driven model can contribute to overcome the above problems and supports the continuous improvement of the administrative management system in order to increase customer satisfaction in terms of quality (error rate reduction), efficiency (saving of time) and agility (implementation of processes of changes).

The strategic management of the processes allows to analyse the current conditions and take into account students, administrative personnel, teachers and other stakeholders in order to achieve continuous improvements. Moreover, Departments need to determine and monitor the short-term action plans at operational level in order to implement the strategic plan successfully.

The objective of the research proposed is to develop a process-driven model applied to the Teaching Management Area of the School of Engineering at University of Basilicata, a public University located in one of the Southern regions of Italy. The main driver is the system of Self-Evaluation, Periodic Evaluation and Accreditation (AVA) of Italian Universities. ANVUR (National Agency for Evaluation of the University System and Research), in its evaluation process, refers to the Quality Assurance system as described in European Standard Guidelines ESG/ENQA 2005/2009.

In this context, the harmonization of the tertiary education systems in the European area of higher education, main purpose of the Bologna process, certainly can not be achieved only by sharing an organization in cycles of study programmes, but it presupposes the sharing of learning objectives and the guarantee of their achievement. Referring to the ISO 9000, the 'quality assurance of education' is the whole of the activities (processes) for the management of the educational service aimed at achieving the established educational objectives and then at 'ensuring trust' in meeting the quality requirements to all stakeholders. Therefore, the quality assurance activities focus on the activities needed to provide objective evidence of the quality achieved, where with 'objective evidence' the ISO 9000 norm intends «data that support the evidence or the truth of something». The process approach is one of the eight quality management principles upon which the whole ISO 9000 series of standards is based. This principle states that a desired result is achieved more efficiently when activities and related resources are managed as a process.

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